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CLAIMS:

1.   A method for encoding an input bitstream of an input signal comprising the steps of :

receiving the input bitstream;

extracting non-essential information from the input bitstream to generate a

5   reduced bitstream;

re-encoding the non-essential information to generate re-encoded data in accordance with a different encoding rule than used for the non-essential information in the bitstream; and

including the re-encoded data in a user data element associated with the

10   reduced bitstream.

2.   A method as claimed in claim 1 wherein the user data element is a user data section of the reduced bit-stream.

15   3.   A method as claimed in claim 1 wherein the user data element is comprised in a separate bit-stream.

4.   A method as claimed in claim 1 wherein the step of extracting non-essential information comprises removing non-essential data corresponding to the non-essential

20   information from the input bitstream.

5.   A method as claimed in claim 1 wherein the step of extracting non-essential information comprises modifying quantisation levels of the reduced bitstream.

25   6.   A method as claimed in claim 1 wherein the step of re-encoding comprises a compression of the non-essential information.

7.   A method as claimed in claim 1 wherein the non-essential information corresponds to less significant data values associated with the input signal.

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8.   A method as claimed in claim 1 further comprising the step of determining the non-essential information in response to a perceptual model associated with the input signal.

5   9.   A method as claimed in claim 1 further comprising the step of including an indication in the user data element of the presence of re-encoded data in the user data element.

10.   A method as claimed in claim 1 further comprising the step of including

10   additional data in the user data element.

11.   A method as claimed in claim 10 wherein the additional data comprises a watermark.

15   12.   A method as claimed in claim 10 further comprising the step of encrypting at least part of the additional data.

13.   A method as claimed in claim 10 wherein the additional data comprises data selected from the group consisting of:

20   a.   revocation data;
          b.   digital rights management information data; and
          c.   checksum data.

14.   A method as claimed in claim 1 wherein the step of re-encoding the non-

25   essential information comprises encryption.

15.   A method as claimed in claim 1 wherein the input bitstream is an MPEG encoded bitstream of the input signal.

30   16.   A method as claimed in claim 15 wherein the non-essential information corresponds to higher frequency transform coefficients.

17.   A method as claimed in claim 15 wherein the step of extracting comprises extracting run-level pairs of the bitstream.

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18.   A method as claimed in claim 17 wherein at least some of the run-level pairs are the run-level pairs immediately prior to an end of block indication.

5   19.   A method as claimed in claim 17 wherein the step of re-encoding the non-essential pairs comprises re-encoding the run-level pairs using a different run length value to data word association than specified for MPEG.

20.   A method as claimed in claim 1 wherein the reduced bitstream and the input
10   bitstream are both in accordance with the same encoding standard.

21.   A method as claimed in claim 1 wherein a combined data rate of the re-encoded data and the reduced bitstream is equal or less than a data rate of the input bitstream.

15   22.   A computer program enabling the carrying out of a method according to claim
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23.   A record carrier comprising a computer program as claimed in claim 22.

20   24.   A method for decoding an input bitstream for an input signal comprising the
steps of :
           receiving the input bitstream, the input bitstream comprising a reduced
bitstream for the input signal;
           receiving a user data element comprising encoded data associated with the
25   input signal;
           extracting the encoded data from the user data element;
           re-encoding the encoded data to generate enhancement data compatible with
an encoding of the input signal in the reduced bitstream; and
           generating an output bitstream by combining the reduced bitstream and the
30   enhancement data.

25.   A method as claimed in claim 24 wherein the encoded data of the user section
is encoded in a format which is incompatible with an encoding format of the reduced
bitstream.

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26.   A method as claimed in claim 24 wherein the encoded data is encrypted and the step of re-encoding comprises decrypting the encoded data.

5   27.   A method as claimed in claim 24 wherein the input bitstream comprises an MPEG encoding of the input signal.

28.   A method as claimed in claim 24 further comprising the step of extracting additional data from the user data element.

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29.   A method as claimed in claim 24 wherein the additional data is a watermark.

30.   A method as claimed in claim 24 wherein the user data element is a user data section of the input bitstream.

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31.   A computer program enabling the carrying out of a method according to claim 24.

32.   A record carrier comprising a computer program as claimed in claim 28.

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33.   An apparatus (101) for encoding an input bitstream of an input signal, the apparatus (101) comprising:

            means (109) for receiving the input bitstream;

            means (111) for extracting non-essential information from the bitstream to

25   generate a reduced bitstream;

            means (113) for re-encoding the non-essential information to generate re-encoded data in accordance with a different encoding rule than used for the non-essential information in the bitstream; and

            means (115) for including the re-encoded data in a user data element

30   associated with the reduced bitstream.

34.   A apparatus (107) for decoding an input bitstream for an input signal, the apparatus (107) comprising:

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means (117) for receiving the input bitstream, the input bitstream comprising a reduced bitstream associated with the input signal;

means (117) for receiving a user data element comprising encoded data for the input signal;

means (119) for extracting the encoded data from the user data element;

means (121) for re-encoding the encoded data to generate enhancement data compatible with an encoding of the input signal in the reduced bitstream; and

means (123) for generating an output bitstream by combining the reduced bitstream and the enhancement data.

35.   A bitstream comprising a reduced bitstream section corresponding to an encoding of a content signal and a user data section comprising encoded data for the input signal encoded in a different format than an encoding format of the reduced bitstream section.